

**Montana Board of Oil and Gas Conservation
Environmental Assessment**

Operator: Antelope Resources Inc.
Well Name/Number: Bailee #2
Location: SE SE Section 19 T11N R28E
County: Musselshell, MT; **Field (or Wildcat)** W/C

Air Quality

(possible concerns)

Long drilling time: No, 7 to 10 days drilling time.

Unusually deep drilling (high horsepower rig): No, single or double derrick drilling rig to drill to 3300' TD vertical Amsden Formation test.

Possible H₂S gas production: Slight.

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under 75-2-211.

Mitigation:

- ☐ Air quality permit (AQB review)
- ☐ Gas plants/pipelines available for sour gas
- ☐ Special equipment/procedures requirements
- ☐ Other: _____

Comments: No special concerns – using a single or double derrick drilling rig to drill to 3,300' TD Amsden Formation test. If there are existing pipelines for natural gas in the area, associated gas can be gathered or if no gathering system nearby, associated gas can be flared under Board Rule 36.22.1220.

Water Quality

(possible concerns)

Salt/oil based mud: No, freshwater, freshwater mud system, rule 36.22.1001.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, stock pond. Closest drainages are unnamed ephemeral tributary drainages to Howard Coulee, about 1/8 of a mile to the southeast and about 1/16 of a mile to the northwest from this location. A stock pond is about 3/4 of a mile to the northeast from this location.

Water well contamination: No water well contamination from the drilling of this well. There are no water wells within a 1 mile radius around this well. Surface hole will be drilled with freshwater and freshwater mud to 330' and steel 8 5/8" surface casing will be run and cemented to surface from 330' to protect ground water, rule 36.22.1001.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage: No, Class I stream drainage in the area.

Mitigation:

- ☒ Lined reserve pit
- ☒ Adequate surface casing
- ☐ Berms/dykes, re-routed drainage
- ☐ Closed mud system
- ☐ Off-site disposal of solids/liquids (in approved facility)
- ☐ Other: _____

Comments: 330' of surface casing cemented to surface adequate to protect freshwater zones. Also, fresh water mud system to be used, rule 36.22.1001.

Soils/Vegetation/Land Use

(possible concerns)

Stream crossings: None, no stream crossings anticipated.

High erosion potential: No, moderate cut, up to 12.0' and small fill, up to 6.9', required.

Loss of soil productivity: No, location will be restored after drilling, if nonproductive. If productive unused portion of drillsite will be reclaimed.

Unusually large wellsite: No, a small wellsite of 200'X200' location size required.

Damage to improvements: No, slight, surface use is prairie grassland.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☐ Other _____

Comments: Access will be from existing county road, Fourmile Road and existing gravel ranch roads and trails. Will build about 547' of new access road into this well location from the ranch trail. Drilling fluids allowed to dry in the lined pits. Drill cutting will be disposed of in the lined reserve pit, after being allowed to dry. Lined pit will be backfilled when dry. No special concerns.

Health Hazards/Noise

(possible concerns)

Proximity to public facilities/residences: No residences within a 1 mile radius around this location.

Possibility of H2S: Slight

Size of rig/length of drilling time: Single or double derrick drilling rig/length of drilling time, 7 to 10 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: _____

Comments: Adequate surface casing and (3,000 psig annular BOP, Rule 36.22.1014) operational BOP equipment should mitigate any problems.

Wildlife/recreation

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified.

Proximity to recreation sites: None identified.

Creation of new access to wildlife habitat: No

Conflict with game range/refuge management: None identified.

Threatened or endangered Species: Threatened or endangered species listed is the Black-footed Ferret. Candidate species are the Greater Sage Grouse and Sprague's

Pipit. NH Tracker website lists four (4) species of concern: Black-tailed Prairie dog, Golden Eagle, Burrowing Owl and Greater Sage Grouse.

Mitigation:

- ☐ Avoidance (topographic tolerance/exception)
- ☐ Other agency review (DFWP, federal agencies, DSL)
- ☐ Screening/fencing of pits, drillsite
- ☐ Other: _____

Comments: Private surface lands. There may be species of concern that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to what he would like done, if a species of concern is discovered at this location. The Board of Oil & Gas has no jurisdiction over private surface lands.

Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites: None identified.

Mitigation

- ☐ avoidance (topographic tolerance, location exception)
- ☐ other agency review (SHPO, DSL, federal agencies)
- ☐ Other: _____

Comments: On private surface lands. There may be possible historical/cultural/paleontological sites that maybe impacted by this wellsite. We ask the operator to consult with the surface owner as to his desires to preserve these sites or not, if they are found during construction of the wellsite. The Board of Oil & Gas has no jurisdiction over private surface lands.

Social/Economic

(possible concerns)

- ☐ Substantial effect on tax base
- ☐ Create demand for new governmental services
- ☐ Population increase or relocation

Comments: Wildcat well. No concerns.

Remarks or Special Concerns for this site

Well is a 3,300' TD vertical hole to the Amsden Formation.

Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected. Some short term impacts will occur with the drilling of this well.

I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki
(title:) Chief Field Inspector
Date: May 18, 2013

Other Persons Contacted:

Montana Bureau of Mines and Geology, GWIC website
(Name and Agency)
Musselshell County water wells
(subject discussed)

May 18, 2013
(date)

US Fish and Wildlife, Region 6 website
(Name and Agency)
ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES
MONTANA COUNTIES, Musselshell County

May 18, 2013
(date)

Montana Natural Heritage Program Website (FWP)
(Name and Agency)
Heritage State Rank= S1, S2, S3, T11N R28E
(subject discussed)
May 18, 2013
(date)

Montana Cadastral Website
(Name and Agency)
Surface Ownership and surface use Section 18 T11N R28E
(subject discussed)

May 18, 2013
(date)

If location was inspected before permit approval:
Inspection date: _____
Inspector: _____
Others present during inspection: _____